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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,757	03/26/2001	John C. Hebeisen	022723-0017	7870
21125	7590	05/22/2003		
NUTTER MCCLENNEN & FISH LLP WORLD TRADE CENTER WEST 155 SEAPORT BOULEVARD BOSTON, MA 02210-2604			EXAMINER	
			PADGETT, MARIANNE L	
			ART UNIT	PAPER NUMBER
			1762	

DATE MAILED: 05/22/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	09/817,757	Applicant(s)	Mash / et al
Examiner	M. L. Padgett	Group Art Unit	1762

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

Responsive to communication(s) filed on 2/11/03

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

Claim(s) 1-6, 9-17, 19 + 21-22 is/are pending in the application.
 Of the above claim(s) _____ is/are withdrawn from consideration.

Claim(s) 19 is/are allowed.

Claim(s) 1-5, 9-17 + 21-22 is/are rejected.

Claim(s) _____ is/are objected to.

Claim(s) _____ are subject to restriction or election requirement

Application Papers

The proposed drawing correction, filed on _____ is approved disapproved.

The drawing(s) filed on _____ is/are objected to by the Examiner

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

All Some* None of the:

Certified copies of the priority documents have been received.

Certified copies of the priority documents have been received in Application No. _____.

Copies of the certified copies of the priority documents have been received
in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

Information Disclosure Statement(s), PTO-1449, Paper No(s). 13 Interview Summary, PTO-413

Notice of Reference(s) Cited, PTO-892 Notice of Informal Patent Application, PTO-152

Notice of Draftsperson's Patent Drawing Review, PTO-948 Other _____

Office Action Summary

1. Claim 22 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

New claim 22 is identical, in words and dependence to original claim 2, which is still pending and in its original form.

2. Claims 6, 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

While the amendment to claim 10 corrects the article to show clear antecedent basis for "the metal-base alloy", it makes claim 10 ambiguous, because it remove the positive selection of the metal-base alloy option. In otherwords, as literally written in claim 10, the first material may still be either cermets or ceramics, and only if metal based alloys are choosen, must it be one of the species of the claim 10 Markush group. The claim may be considered ambiguous, because the separate listing in claim 10 (and previous phrasing) implies an intent to choose a metal-based alloy for the first material, but does not clearly necessitate it.

In claim 6, "high" is still relative and applicant has provided no explanation of how it is defined.

3. Applicant's discussion on p. 9 of the 2/11/03 response is sufficient for defining "hot isostatic pressing". With respect to "corrosion and erosion resistant", now in only claims 2, 19 and 21-22 as a comparison between first and second materials, it is noted that NO conditions under which corrosion or wear may be occurring are defined. Since one may find one set of chemicals that corrode one material more than another, and another set of chemicals with the opposite effects, depending on what corrosive agents are present or considered, one

Art Unit: 1762

can always declare that one material is more corrosion resistant than the other. Taking applicant's p. 9 explanation for "corrosion and/or erosion resistance" for their undefined environment or circumstances, this limitation may be considered to be always inherently covered for some environment. What environment is irrelevant to the claims as written.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 21 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Becker et al (955) as discussed in section 4 of paper # 10.

Applicants have amended independent claims 1 and 19 to have a different required configuration for the process and results, as discussed on p. 10 of their response, but claim 21 still remains broad enough to read on Becker et al for reasons give. In claim 21, note that the core need not be enclosed, only the first material, and as written there is nothing to exclude reading on Becker et al (955). In claim 21, neither core or capsule need be removed, the above discussion on corrosion and/or resistant is applicable to the claims, and as Becker et al's products are 3-dimensional, they are consequently inherently "non-linear" in shape. Also note, that since order of listing does not necessitate any order of doing a process, unless antecedence

Art Unit: 1762

or time limitation so require, there is nothing in claim 21 to exclude the core and capsule from being the same or part of the same object.

In contrast, the amendments to claim 1 have provided a clear differentiation in configuration and process from Becker et al, where the core and capsule are distinct objects, with the modifier "sacrificial" describing "core", so that read in light of applicants' p. 10 (1/11/03) response and discussion of sacrificial cores in the specification (p. 4, lines 7-15; etc), it is clear that the sacrificial core is not a part of the final product. So while claim 1 does not explicitly direct the core to be removed, the use of "sacrificial" can be considered in light of the specification to indicate its removal or lack of presence at the completion of the process, i.e., before end-use.

Claim 19 as amended requires a process as now required by claim 1, as the core and capsule are explicitly removed, while the configuration of the results as described, requires processing configuration conditions differentiated from those of Becker et al (955).

6. Claims 1-5, 9-14 and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Ritter et al.

Ritter et al teach making cooling channels in for example gas turbines, that are double walled structures, where a sacrificial channel filling means is employed, and removed via chemical or thermal means, after hot isostatic pressing (HIP), that may use "canning" i.e., encapsulating, in the double wall assembly and include powder compaction. The sacrificial channel filling means may be carbon steel, and various Ni, Co, Fe, Ti, or Cr based alloys are taught for the inner and outer walls, plus the channel means. See abstract; summary; and col. 4, line 46 - col. 5, line 30. The chemical etching used is considered to read on pickling in claim 4. Example 1 on cols. 5-6 is of interest to applicants' claim 1 with its use of powder in the HIP, and the welding technique of claim 5. Ex. 2 teaches parameters for the HIP of 15 Ksi (i.e.,

Art Unit: 1762

15,000 psi) and 1150°C (i.e., about 2102°F) and a specific solution for removing sacrificial material called monel.

7. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al.

While Ritter et al teach HIP heat and pressure parameters as claimed, they do not discuss the times applied for their teachings, however it would have been obvious to one of ordinary skill to determine times required to produce desired results via routine experimentation. These would have been expected to be as claimed, because analogous materials, heat, pressure and results are desired by Ritter et al.

8. Also of interest is Schilke et al, which is producing similar products with cooling channels, but does not use sacrificial materials.

9. Applicant's arguments filed 2/11/03 as discussed above have been fully considered but they are not persuasive. Applicant's arguments with respect to claims 1-5, 9-17 and 22 have been considered but are moot in view of the new ground(s) of rejection.

10. Claim 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims, except the newly supplied fragmentary EPO reference to van Nederveen et al appears to supply the claimed spraying in appropriate context.

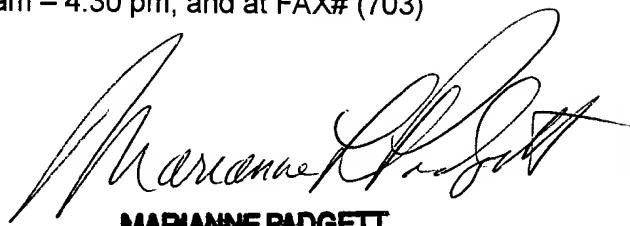
Claim 6 is tentatively rejected under 35 U.S.C. 103(a) as being unpatentable over Ritter et al, in view of van Nederveen et al. While Ritter et al does not teach spraying as a technique for supplying the coating material, van Nederveen et al in an analogous HIP process (abstract; claims 1-3; p.2, esp. lines 2-11) provides spraying techniques for applying coating materials & powders to be compacted by HIP, hence it would have been obvious to one of ordinary skill in

the art that the spraying techniques would have been effectively & advantageously employed in Ritter et al.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication should be directed to M L. Padgett at telephone number 703-308-2336 on M-F from about 8:30 am – 4:30 pm, and at FAX# (703) 872-9311 (after final) or 305-6075 (informal).



**MARIANNE PADGETT
PRIMARY EXAMINER**

M. L. Padgett/mn 5/5/03
May 20, 2003

P.S. The IDS of 5/9/03 is made of record, except all the supplied references are incomplete. The Beltran et al appears equivalent to Schilke et al cited above, while McCollough et al in view of van Nederveen et al, appear appropriate for a 103 rejection, possibly over claims 1-6, 9-14, 19 & 21, or all the pending claims, but it is impossible to clearly determine due to the fragmentary nature of the disclosure. MLP 5/20/03